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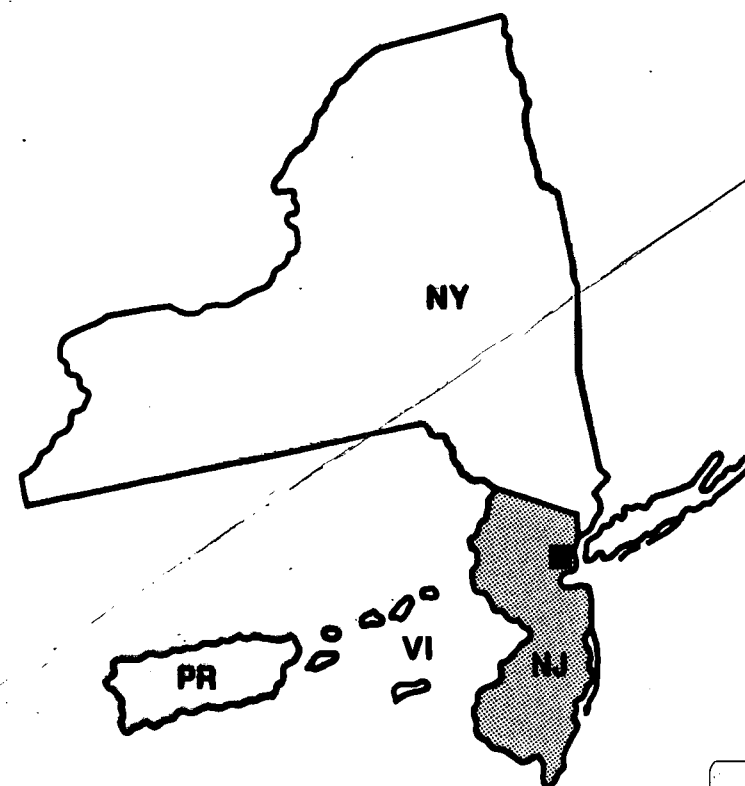
83003

Research and Development



Aerial Photographic Site Analysis Ventron/Velsicol Wood-Ridge, New Jersey

EPA Region 2
OERR



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Aerial Photographic Site Analysis
Ventron/Velsicol
Wood-Ridge, New Jersey

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NOTICE

This document has undergone a technical and quality control/assurance review and approval by personnel of the EPA/ORD Environmental Monitoring Systems Laboratory at Las Vegas (EMSL-LV), and is for internal Agency use and distribution only.

ABSTRACT

This report presents an analysis of aerial photography of the Ventron/Velsicol site, located in Wood-Ridge, New Jersey. The site was analyzed to assist the Environmental Protection Agency (EPA) Region 2 in its assessment of waste disposal at the site.

This analysis covers the period between 1940 and 1974. Findings include filling of marshlands due to waste disposal activity between 1951 and 1966 and pits in 1966 and 1974.

The EPA's Environmental Photographic Interpretation Center in Warrenton, Virginia, a branch of the Advanced Monitoring Systems Division of the Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, performed this analysis at the request of the Superfund Support Section of EPA Region 2 in New York, New York and the Office of Emergency and Remedial Response in Washington, D.C.

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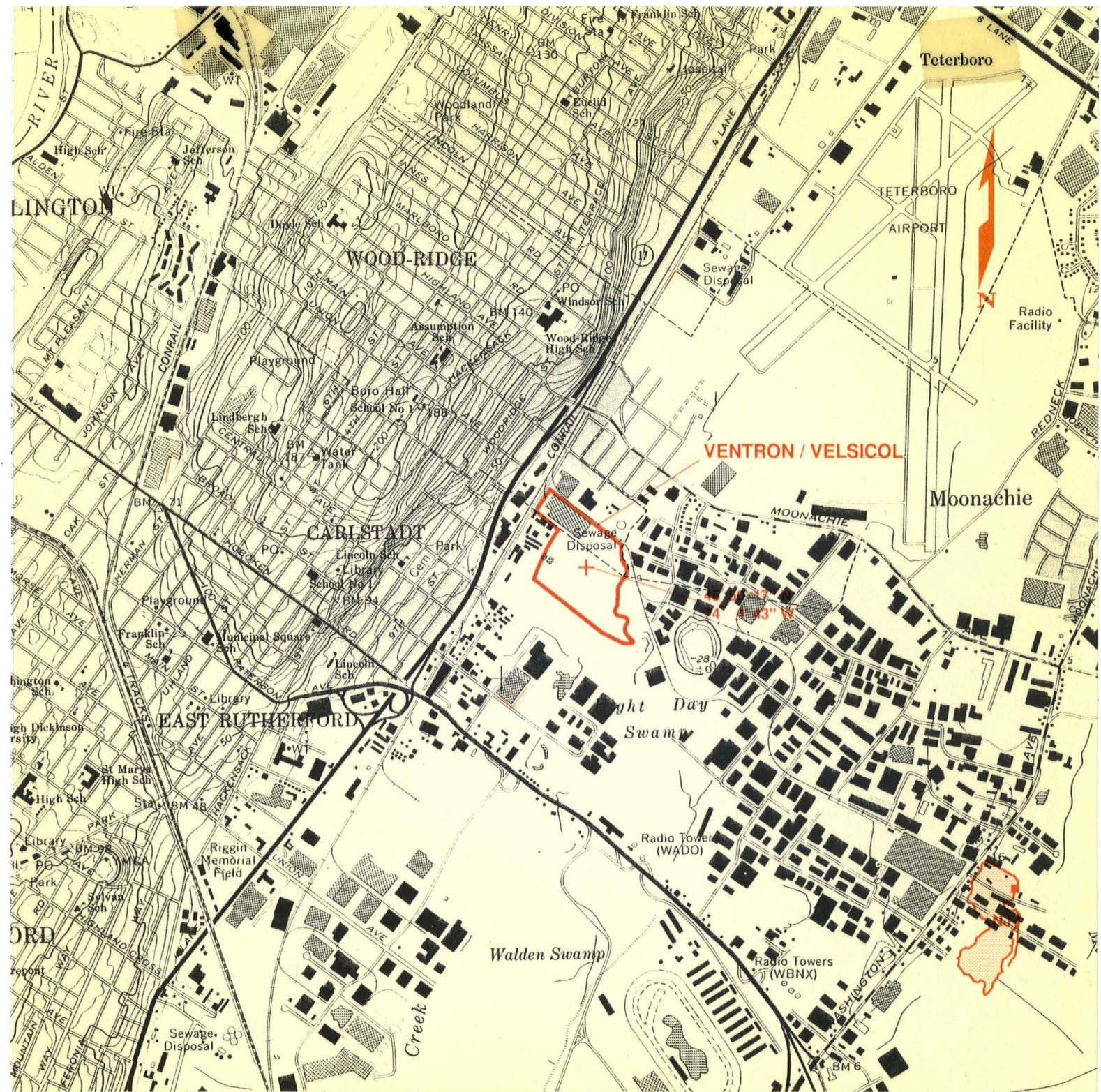


FIGURE 1
VENTRON / VELSICOL

LOCATION MAP
WEEHAWKEN NJ-NY QUAD

APPROX. SCALE 1 : 24,000

INTRODUCTION

An analysis of aerial photography was performed on the Ventron/Velsicol site, located in Wood-Ridge, New Jersey. The site comprises approximately 16 hectares (40 acres). The Superfund Site ID Number is 02C7 and the CERCLIS ID Number is NJD980529879.

The Environmental Protection Agency (EPA) Region 2 requested this analysis in support of its investigation of waste disposal at this site.

Figure 1 shows the site location, keyed to a photocopy of a U.S. Geological Survey (USGS) 1:24,000-scale topographic map. Site boundaries or areas used in this analysis were determined from observations made from the aerial photography in conjunction with collateral data supplied by EPA Region 2 and do not necessarily denote legal property lines or ownership.

Aerial photography of Ventron/Velsicol was obtained to represent the period from 1940 to 1974.¹ Findings include filling of marshlands due to waste disposal activity between 1951 and 1966 and pits in 1966 and 1974.

The EPA's Environmental Photographic Interpretation Center in Warrenton, Virginia, a branch of the Advanced Monitoring Systems Division of the Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, performed this analysis at the request of the Superfund Support Section of EPA Region 2 in New York, New York and the Office of Emergency and Remedial Response in Washington, D.C.

¹A complete listing of maps and photography used in this report is provided in the References section.

METHODOLOGY

A search of government and commercial sources was undertaken to obtain aerial photography of the site spanning the desired time frame. The photography and other sources of information used in this report are listed in the References section.

The analysis was performed by viewing backlit transparencies of aerial photography through stereoscopes. Stereoscopic viewing creates a perceived three-dimensional effect which, when combined with viewing at various magnifications, enables the analyst to identify signatures associated with different features and environmental conditions. The term "signature" refers to a combination of visible characteristics (such as color, tone, shadow, texture, size, shape, pattern, and association) which permit a specific object or condition to be recognized on aerial photography.

The terms "possible" and "probable" are used to indicate the degree of certainty of signature identification. "Possible" is used when only a few characteristics are discernible or these characteristics are not unique to a signature. "Probable" is used when incrementally more characteristics are discernible. No qualifying terms are used when the characteristics of a signature allow for a definite feature identification.

Photographic prints were made from those years of aerial photographic coverages acquired for this report. Overlays to the prints and/or base maps serve to locate significant features; additional observations and analysis are discussed in the text. Significant features are annotated only when present and will be discussed in the text only if additional information needs to be conveyed. Site boundaries or areas used in this analysis were determined from observations made from the aerial photography in conjunction with collateral data supplied by EPA Region 2 and do not necessarily denote legal property lines or ownership.

Due to factors inherent in the photographic printing process, prints do not exhibit the level of detail that is

visible in the original aerial photography. Therefore, some features identified from the aerial photography may not be clearly discernible, or even visible, on the photographic prints presented in this report.

AERIAL PHOTO SITE ANALYSIS

APRIL 6, 1940 (FIGURE 2)

The site is composed primarily of marshlands; the few industrial buildings (not annotated) of the facility were probably built on fill material. Medium-toned earthen material has been used to fill the area between the facility and the railroad. Lighter-toned earthen fill material is being used for construction of a sewage treatment plant (STP). No evidence of waste disposal was associated with these fill areas.

Site drainage is characterized by natural marsh drainage patterns and channelized drainage which flow to Berry's Creek and the Eight Day Swamp.



LEGEND	
DK	- Dark-toned
HT	- Horizontal Tank
LQ	- Liquid
LT	- Light-toned
M	- Material
MM	- Mounded Material
ST	- Stain
STP	- Sewage Treatment Plant
VT	- Vertical Tank
WDA	- Waste Disposal Area
-----	- Access Road
-----	- Feature Boundary
=====	- Site Boundary
	- Edge of Slope
→ . →	- Natural Drainage
→ → →	- Channelized Drainage
+++++	- Railroad
	- Revetment

FIGURE 2
VENTRON / VELSICOL

APRIL 6, 1940

APPROX. SCALE 1:4,700

APRIL 7, 1951 (FIGURE 3)

Additional buildings (not annotated) have been constructed since 1940 and probable open storage of materials and equipment (neither annotated) can be seen at the facility. Light- and dark-toned materials make up the edge of the fill upon which the facility was built and indicate possible disposal activity (WDA1). Additional filling of medium-toned earthen material has occurred in the general area of the facility; however, no evidence of waste disposal can be seen in these fill areas.

Three waste disposal areas (WDA 2-4) appear associated with the sewage treatment plant. WDA2, an area of current disposal activity, is composed of light-toned materials. WDA3 is revegetated waste disposal area similar to WDA2. WDA4 is comprised of light- and dark-toned materials and possible stains or standing liquid (not annotated).

The large ditch in the center of the site is in the same location as the probable pipeline shown in 1940.



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VT	- Vertical Tank
WDA	- Waste Disposal Area
----	- Access Road
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---	- Site Boundary
	- Edge of Slope
→	- Natural Drainage
→	- Channelized Drainage
+++++	- Railroad
	- Revetment

FIGURE 3
VENTRON / VELSICOL

APRIL 7, 1951

APPROX. SCALE 1: 4,700

JUNE 21, 1966 (FIGURE 4)

Ownership of the facility is identified on top of the main building as Wood Ridge Chemical Corporation. Few new buildings (not annotated) have been added to the facility since 1951. Probable refuse lines the facility's boundary with the waste disposal area.

Waste disposal has occurred throughout much of the former marsh (WDA5). Active disposal areas are identified by ground scarring, probable dumpsters and access roads. Collateral information provided by Region 2 indicates that approximately 19 acres (8 hectares) of the site were utilized for disposal of wastes during this period. Access roads lead to the fill area from the facility, from the road next to the sewage treatment plant, and from an adjacent facility. A large pit adjacent to one of the access roads contains possible liquid. Another small pit contains light- and dark-toned materials.



LEGEND

- DK - Dark-toned
- HT - Horizontal Tank
- LQ - Liquid
- LT - Light-toned
- M - Material
- MM - Mounded Material
- ST - Stain
- STP - Sewage Treatment Plant
- VT - Vertical Tank
- WDA - Waste Disposal Area
- - Access Road
- - Feature Boundary
- ===== - Site Boundary
- ||||| - Edge of Slope
- - Natural Drainage
- - Channelized Drainage
- +++++ - Railroad
- ||||| - Revetment

FIGURE 4
VENTRON / VELSICOL

JUNE 21, 1966

APPROX. SCALE 1: 4,800

APRIL 11, 1974 (FIGURE 5)

Ownership of the facility is identified on top of the main building as Ventron Corporation. Open storage of materials and equipment (neither annotated) is occurring and dark-toned (DK) stains (ST) or standing liquid (LQ) are present, recent rainfall may account for these latter features. An empty impoundment (IM) is present, as are probable vertical (VT) and horizontal tanks (HT).

Waste disposal has not covered any additional marshland since 1966. Disposal activity is indicated by the presence of light-toned (LT) mounded materials (MM) near the small pit (first visible in 1966) and scattered refuse across the surface of the fill. The larger pit identified in 1966 has been partially filled. The remainder contains liquid, and is surrounded by a fence or berm.

The primary access road to the fill area is the road adjacent to the sewage treatment plant. There is no direct access road to the fill area from the facility at this time.



LEGEND

- DK - Dark-toned
- HT - Horizontal Tank
- LQ - Liquid
- LT - Light-toned
- M - Material
- MM - Mounded Material
- ST - Stain
- STP - Sewage Treatment Plant
- VT - Vertical Tank
- WDA - Waste Disposal Area
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- ===== - Feature Boundary
- ===== - Site Boundary
- ||||| - Edge of Slope
- - Natural Drainage
- - Channelized Drainage
- +++++ - Railroad
- ||||| - Revetment

FIGURE 5
VENTRON / VELSICOL

APRIL 11, 1974

11

APPROX. SCALE 1: 4,700

REFERENCES

AERIAL PHOTOGRAPHY

<u>Date</u>	<u>Agency</u>	<u>Mission Code</u>	<u>Agency Frame #</u>	<u>Film Type¹</u>	<u>Orig. Scale</u>	<u>EPIC Frame #</u>
04/06/40	INTERA ²	--	13:103-105	B&W	1:18,000	36203,8388,8389
04/07/51	INTERA	--	289:2760,2761	B&W	1:20,000	41974,41975
06/21/66	SCS ³	EQS	1GG:85-87	B&W	1:20,000	41814-41816
04/11/74	INTERA	2063	44:5609,5610	B&W	1:18,000	42078,42079

MAP

<u>Source</u>	<u>Name</u>	<u>Scale</u>	<u>Date</u>
USGS ⁴	Weehawken, NJ-NY	1:24,000	1981

¹Film type identification:
B&W: Black-and-white

²INTERA Information Technologies Corporation, Calgary, Alberta

³Soil Conservation Service, U.S. Department of Agriculture

⁴U.S. Geological Survey, U.S. Department of the Interior